

Recovery Plan Action Status

Plan Name: Indiana Bat (*Myotis sodalis*) Draft Recovery Plan: First Revision

Plan Status: Draft Revision 1

Plan Date: 16-Apr-07

Lead Agency: USFWS

Lead Office: Bloomington Ecological Services Field Office

(4812)
334-4261)

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Indiana bat (<i>Myotis sodalis</i>)	1	1.1.1.1	Assess current threats and conservation measures at all P1 and P2 hibernacula and develop a prioritized list of hibernacula in need of remedial actions.	Not Started			U.S. Forest Service, The Nature Conservancy, Bat Conservation International , Department of Defense , Non-governmental organizations (e.g. The Nature Conservancy), USFWS Ecological Services Program, Karst Organizations, State Natural Resources Agencies within the range of the Indiana bat	Work type not yet selected	Labor type not yet selected	
Indiana bat (<i>Myotis sodalis</i>)	1	1.1.1.2.1	Develop guidance and template for how to complete an HMP.	Not Started			U.S. Forest Service, Consultants, Bat Conservation International , Department of Defense , Non-governmental organizations (e.g. The Nature Conservancy), USFWS Ecological Services Program, Karst Organizations, University or academic researchers, State Natural Resources Agencies within the range of the Indiana bat	Work type not yet selected	Labor type not yet selected	

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Indiana bat (<i>Myotis sodalis</i>)	3	1.1.1.2.10	Implement HMPs and associated remedial measures at P3 and P4 hibernacula as warranted.	Not Started			U.S. Forest Service, The Nature Conservancy, Department of Defense , Non-governmental organizations (e.g. The Nature Conservancy), USFWS Ecological Services Program, Karst Organizations, State Natural Resources Agencies within the range of the Indiana bat	Work type not yet selected	Labor type not yet selected	FY 2007-2026 costs are TBD. Cost for FY 2011 will represent estimated cost for FY 2011-2026.
Indiana bat (<i>Myotis sodalis</i>)	1	1.1.1.2.2	Develop HMPs for all P1A hibernacula (n=16).	Not Started			USFWS Ecological Services Program, Karst Organizations, State Natural Resources Agencies within the range of the Indiana bat	Work type not yet selected	Labor type not yet selected	
Indiana bat (<i>Myotis sodalis</i>)	2	1.1.1.2.3	Develop HMPs for all P1B hibernacula (n=7).	Not Started			Department of Defense , USFWS Ecological Services Program, State Natural Resources Agencies within the range of the Indiana bat	Work type not yet selected	Labor type not yet selected	
Indiana bat (<i>Myotis sodalis</i>)	2	1.1.1.2.4	Develop HMPs for at least 50% of P2 hibernacula (n=50% of 53=27).	Not Started			U.S. Forest Service, The Nature Conservancy, Department of Defense , USFWS Ecological Services Program, Karst Organizations, State Natural Resources Agencies within the range of the Indiana bat	Work type not yet selected	Labor type not yet selected	Cost for FY 2011 represents estimated cost for FY 2011-2026.

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Indiana bat (<i>Myotis sodalis</i>)	3	1.1.1.2.5	Develop HMPs for P3 or P4 hibernacula as warranted.	Not Started			U.S. Forest Service, The Nature Conservancy, Department of Defense , Non-governmental organizations (e.g. The Nature Conservancy), USFWS Ecological Services Program, Karst Organizations, State Natural Resources Agencies within the range of the Indiana bat	Work type not yet selected	Labor type not yet selected	Cost for FY 2011 represents estimated cost for FY 2011-2026. \$7/yr. in yrs. 5-8 (noted for FY 2011-2026).
Indiana bat (<i>Myotis sodalis</i>)	1	1.1.1.2.6	Implement HMPs and associated remedial measures at all publicly owned P1 hibernacula (n=15).	Not Started			U.S. Forest Service, The Nature Conservancy, Bat Conservation International , Department of Defense , USFWS Ecological Services Program, Karst Organizations, State Natural Resources Agencies within the range of the Indiana bat	Work type not yet selected	Labor type not yet selected	Cost for FY 2011 represents estimated cost for FY 2011-2026. *\$25/yr in yr. 5 (noted for FY 2011-2026). Assumed \$5/hib.
Indiana bat (<i>Myotis sodalis</i>)	1	1.1.1.2.7	Implement HMPs and associated remedial measures at all privately owned P1 hibernacula (n=8) where landowner cooperation is obtained.	Not Started			Private landowners, USFWS Ecological Services Program	Work type not yet selected	Labor type not yet selected	Cost for FY 2011 represents estimated cost for FY 2011-2026. *\$10/yr in yrs. 5-7 (noted for FY 2011-2026).
Indiana bat (<i>Myotis sodalis</i>)	2	1.1.1.2.8	Implement HMPs and associated remedial measures at publicly owned P2 hibernacula (n=18) recognized as high need for alleviating disturbance.	Not Started			U.S. Forest Service, The Nature Conservancy, Department of Defense , USFWS Ecological Services Program, Karst Organizations, State Natural Resources Agencies within the range of the Indiana bat	Work type not yet selected	Labor type not yet selected	Cost for FY 2011 represents estimated cost for FY 2011-2026.

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Indiana bat (<i>Myotis sodalis</i>)	2	1.1.1.2.9	Implement HMPs and associated remedial measures at privately owned P2 hibernacula (n=34) recognized as high priority for alleviating disturbance where landowner cooperation is obtained.	Not Started			Private landowners, USFWS Ecological Services Program	Work type not yet selected	Labor type not yet selected	Cost for FY 2011 represents estimated cost for FY 2011-2026.
Indiana bat (<i>Myotis sodalis</i>)	3	1.1.1.3	Collate existing and/or develop new technical guidance for installing bat-friendly gates and other human barriers and deterrents (e.g., signs and alarm systems), including a pre- and post-gating monitoring protocol.	Not Started			U.S. Geological Survey, U.S. Forest Service, The Nature Conservancy, Consultants, National Speleological Society, Bat Conservation International, Office of Surface Mining, Non-governmental organizations (e.g. The Nature Conservancy), American Cave Conservation Association, USFWS Ecological Services Program, Karst Organizations, State Natural Resources Agencies within the range of the Indiana bat	Work type not yet selected	Labor type not yet selected	

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Indiana bat (<i>Myotis sodalis</i>)	3	1.1.1.4	Collate existing and/or develop new technical guidance for installing bat-friendly gates and other human barriers and deterrents (e.g., signs and alarm systems), including a pre- and post-gating monitoring protocol.	Not Started			U.S. Geological Survey, Consultants, Bat Conservation International, Office of Surface Mining, Non-governmental organizations (e.g. The Nature Conservancy), USFWS Ecological Services Program, University or academic researchers, State Natural Resources Agencies within the range of the Indiana bat	Work type not yet selected	Labor type not yet selected	
Indiana bat (<i>Myotis sodalis</i>)	3	1.1.1.5.1	Refine winter bat survey protocols to ensure that disturbance associated with surveys is minimized (see Recovery Action 1.3.4)	Not Started			U.S. Geological Survey, Consultants, Bat Conservation International, Non-governmental organizations (e.g. The Nature Conservancy), USFWS Ecological Services Program, University or academic researchers, State Natural Resources Agencies within the range of the Indiana bat	Work type not yet selected	Labor type not yet selected	Costs estimated in 1.3.4.
Indiana bat (<i>Myotis sodalis</i>)	3	1.1.1.5.2	Evaluate and standardize all research conducted at hibernacula during the hibernation period through enhancement of survival permits under Section 10(a)(1)(A) of the ESA and Section 6 authorities granted to states.	Ongoing Current	FY 2009		Research, U.S. Fish and Wildlife Service - Endangered Species Program	Work type not yet selected	Labor type not yet selected	Ongoing improvements to hibernacula survey protocol. Protocols related to WNS research have also been developed.

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Indiana bat (<i>Myotis sodalis</i>)	3	1.1.1.6	Provide guidance to local management authorities on procedures for alleviating human disturbance at hibernacula within their jurisdictions.	Not Started			U.S. Forest Service, The Nature Conservancy, Consultants, Bat Conservation International, Department of Defense, Non-governmental organizations (e.g. The Nature Conservancy), USFWS Ecological Services Program, Municipalities, University or academic researchers, All counties in all states within the range of the Indiana bat, State Natural Resources Agencies within the range of the Indiana bat	Work type not yet selected	Labor type not yet selected	Cost for FY 2011 represents estimated cost for FY 2011-2026.
Indiana bat (<i>Myotis sodalis</i>)	3	1.1.1.7	Coordinate with Federal, state, and local law enforcement authorities and jointly develop procedures to conserve hibernacula deemed at risk.	Not Started			Consultants, Non-governmental organizations (e.g. The Nature Conservancy), USFWS Ecological Services Program, Karst Organizations, Municipalities, All counties in all states within the range of the Indiana bat, USFWS, Division of Law Enforcement, State Natural Resources Agencies within the range of the Indiana bat	Work type not yet selected	Labor type not yet selected	

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Indiana bat (<i>Myotis sodalis</i>)	3	1.1.2.1	Develop evaluation procedures and criteria that will be used to designate hibernacula as ecological traps.	Not Started			U.S. Geological Survey, Consultants, Bat Conservation International, Non-governmental organizations (e.g. The Nature Conservancy), USFWS Ecological Services Program, University or academic researchers, State Natural Resources Agencies within the range of the Indiana bat	Work type not yet selected	Labor type not yet selected	
Indiana bat (<i>Myotis sodalis</i>)	3	1.1.2.2	Conduct an ecological benefit/risk analysis to determine the advisability of excluding Indiana bats from hibernacula identified as being ecological traps (n=3) in order to promote recovery.	Not Started			U.S. Geological Survey, Consultants, Bat Conservation International, Non-governmental organizations (e.g. The Nature Conservancy), USFWS Ecological Services Program, Karst Organizations, University or academic researchers, State Natural Resources Agencies within the range of the Indiana bat	Work type not yet selected	Labor type not yet selected	
Indiana bat (<i>Myotis sodalis</i>)	3	1.1.2.3	Design and implement site-specific actions to exclude bats from ecological traps where feasible and deemed beneficial to recovery.	Not Started			U.S. Geological Survey, Consultants, Non-governmental organizations (e.g. The Nature Conservancy), USFWS Ecological Services Program, University or academic researchers, State Natural Resources Agencies within the range of the Indiana bat	Work type not yet selected	Labor type not yet selected	Cost for FY 2011 represents estimated cost for FY 2011-2026.

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Indiana bat (<i>Myotis sodalis</i>)	2	1.1.3.1	Assess needs and develop a prioritized list of privately owned P1 (n=8) and P2 (n=34) hibernacula that indicates whether acquisition of the cave/mine entrance and adjacent areas from willing sellers is a high priority goal or whether the development of management agreements should be pursued	Not Started			U.S. Geological Survey, Private landowners, Consultants, Department of Defense , Non-governmental organizations (e.g. The Nature Conservancy), USFWS Ecological Services Program, Karst Organizations, University or academic researchers, State Natural Resources Agencies within the range of the Indiana bat	Work type not yet selected	Labor type not yet selected	
Indiana bat (<i>Myotis sodalis</i>)	2	1.1.3.2	Purchase from willing sellers or implement long-term agreements at high-priority hibernacula, using information obtained from 1.1.3.1.	Ongoing Current	FY 2009			Work type not yet selected	Labor type not yet selected	FY 2007-2026 costs are TBD. Cost for FY 2011 will represent estimated cost for FY 2011-2026.
Indiana bat (<i>Myotis sodalis</i>)	2	1.1.4.1	Characterize land use and land-use trends surrounding all P1 and P2 hibernacula via a GIS-based analysis.	Not Started			Department of Defense , Construction Engineering Research Laboratory, USFWS Ecological Services Program	Work type not yet selected	Labor type not yet selected	Initiated in 2005.
Indiana bat (<i>Myotis sodalis</i>)	2	1.1.4.2	Identify and prioritize P1 and P2 hibernacula with inadequately managed surroundings/buffer s.	Not Started			U.S. Geological Survey, Consultants, Department of Defense , Non-governmental organizations (e.g. The Nature Conservancy), USFWS Ecological Services Program, University or academic researchers, State Natural Resources Agencies within the range of the Indiana bat	Work type not yet selected	Labor type not yet selected	Cost for FY 2011 represents estimated cost for FY 2011-2026.

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Indiana bat (<i>Myotis sodalis</i>)	2	1.1.4.3	Work with partners to complete remedial actions designed to conserve high-priority hibernacula identified on the list developed in 1.1.4.2.	Not Started			Private landowners, Consultants, Non-governmental organizations (e.g. The Nature Conservancy), USFWS Ecological Services Program, University or academic researchers, State Natural Resources Agencies within the range of the Indiana bat	Work type not yet selected	Labor type not yet selected	Cost for FY 2011 represents estimated cost for FY 2011-2026.
Indiana bat (<i>Myotis sodalis</i>)	2	1.1.4.4.1	Purchase from willing sellers or conserve through long-term agreements areas surrounding high-priority P1 hibernacula identified on the list developed in 1.1.4.2.	Not Started			The Nature Conservancy, Private landowners, Consultants, Non-governmental organizations (e.g. The Nature Conservancy), USFWS Ecological Services Program, Karst Organizations, USFWS Partners for Fish and Wildlife Program, USFWS, Division of Refuges and Wildlife, State Natural Resources Agencies within the range of the Indiana bat	Work type not yet selected	Labor type not yet selected	Cost for FY 2011 represents estimated cost for FY 2011-2026.
Indiana bat (<i>Myotis sodalis</i>)	3	1.1.4.4.2	Purchase from willing sellers or conserve and manage through long-term agreements area surrounding high-priority P2 hibernacula identified on the list developed in 1.1.4.2.	Not Started			The Nature Conservancy, Private landowners, Consultants, Non-governmental organizations (e.g. The Nature Conservancy), USFWS Ecological Services Program, Karst Organizations, USFWS Partners for Fish and Wildlife Program, USFWS, Division of Refuges and Wildlife, State Natural Resources Agencies within the range of the Indiana bat	Work type not yet selected	Labor type not yet selected	Cost for FY 2011 represents estimated cost for FY 2011-2026.

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Indiana bat (<i>Myotis sodalis</i>)	3	1.1.4.5	Coordinate with private landowners and encourage voluntary enrollment into conservation incentive programs.	Not Started			U.S. Forest Service, Non-governmental organizations (e.g. The Nature Conservancy), Natural Resources Conservation Service, USFWS Ecological Services Program, Karst Organizations, USFWS Partners for Fish and Wildlife Program, State Natural Resources Agencies within the range of the Indiana bat	Work type not yet selected	Labor type not yet selected	Cost for FY 2011 represents estimated cost for FY 2011-2026.
Indiana bat (<i>Myotis sodalis</i>)	3	1.1.4.6	Develop and distribute outreach materials containing BMPs for hibernacula owners/managers and adjacent land owners.	Not Started			U.S. Forest Service, Non-governmental organizations (e.g. The Nature Conservancy), Natural Resources Conservation Service, USFWS External Affairs Program, USFWS Ecological Services Program, Karst Organizations, USFWS Partners for Fish and Wildlife Program, State Natural Resources Agencies within the range of the Indiana bat	Work type not yet selected	Labor type not yet selected	Cost for FY 2011 represents estimated cost for FY 2011-2026.
Indiana bat (<i>Myotis sodalis</i>)	3	1.1.5	Pursue Habitat Conservation Plans at or near private or state-owned hibernacula where unauthorized take is occurring or anticipated.	Ongoing Current	FY 2009		U.S. Fish and Wildlife Service - Endangered Species Program	Work type not yet selected	Labor type not yet selected	Cost for FY 2011 represents estimated cost for FY 2011-2026. FY10 - progress made on NiSource HCP.

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Indiana bat (Myotis sodalis)	3	1.1.6	Pursue Safe Harbor Agreements at private or state-owned hibernacula if beneficial to the species and owners.	Not Started			Private landowners, Department of Defense , USFWS Ecological Services Program, Karst Organizations, USFWS Partners for Fish and Wildlife Program, State Natural Resources Agencies within the range of the Indiana bat	Work type not yet selected	Labor type not yet selected	Cost for FY 2011 represents estimated cost for FY 2011-2026. *Unimin Corp. is considering a Safe Harbor Agreement for silica mines in IL.
Indiana bat (Myotis sodalis)	2	1.2.1	Research and develop cave/mine restoration guidance.	Not Started			Consultants, Bat Conservation International , Office of Surface Mining, Non-governmental organizations (e.g. The Nature Conservancy), USFWS Ecological Services Program, Karst Organizations, University or academic researchers, State Natural Resources Agencies within the range of the Indiana bat	Work type not yet selected	Labor type not yet selected	
Indiana bat (Myotis sodalis)	2	1.2.2	Identify, assess, and prioritize hibernacula that warrant restoration actions in each Recovery Unit.	Not Started			U.S. Geological Survey, Consultants, Bat Conservation International , Non-governmental organizations (e.g. The Nature Conservancy), USFWS Ecological Services Program, Karst Organizations, University or academic researchers, State Natural Resources Agencies within the range of the Indiana bat	Work type not yet selected	Labor type not yet selected	

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Indiana bat (<i>Myotis sodalis</i>)	2	1.2.3	Develop site-specific restoration plans for the highest priority sites identified in 1.2.2 and implement restoration work.	Not Started			Consultants, Bat Conservation International , Non-governmental organizations (e.g. The Nature Conservancy), USFWS Ecological Services Program, Karst Organizations, University or academic researchers, State Natural Resources Agencies within the range of the Indiana bat	Work type not yet selected	Labor type not yet selected	Cost for FY 2011 represents estimated cost for FY 2011-2026.
Indiana bat (<i>Myotis sodalis</i>)	3	1.2.4	Investigate and pursue additional restoration work at Mammoth Cave, Kentucky.	Not Started			Consultants, Bat Conservation International , University or academic researchers, Western Kentucky University	Work type not yet selected	Labor type not yet selected	
Indiana bat (<i>Myotis sodalis</i>)	3	1.2.5	Investigate and pursue conservation and management at Rocky Hollow Cave, Virginia.	Not Started			U.S. Forest Service, The Nature Conservancy, Bat Conservation International , Virginia Department of Game and Inland Fisheries, USFWS Ecological Services Program	Work type not yet selected	Labor type not yet selected	
Indiana bat (<i>Myotis sodalis</i>)	3	1.2.6	Identify and assess the potential of abandoned mines to serve as hibernacula and develop a prioritized list.	Not Started			Consultants, Bat Conservation International , Office of Surface Mining, USFWS Ecological Services Program, University or academic researchers, State Natural Resources Agencies within the range of the Indiana bat	Work type not yet selected	Labor type not yet selected	

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Indiana bat (Myotis sodalis)	3	1.2.7	Investigate and pursue enhancement of microclimate at Lewisburg Limestone Mine, Ohio.	Not Started			Ohio Department of Natural Resources, Private landowners, Consultants, USFWS Ecological Services Program, University or academic researchers	Work type not yet selected	Labor type not yet selected	
Indiana bat (Myotis sodalis)	1	1.3.1.1	Survey extant populations in all P1 (n=23) and P2 (n=53) hibernacula every two years.	Ongoing Current	FY 2007		Research , U.S. Fish and Wildlife Service - Endangered Species Program	Research: Population Surveys	Labor type not yet selected	Cost for FY 2011 represents estimated cost for FY 2011-2026. Most are traditionally surveyed on odd years. Standardized surveys conducted at most P1 and P2 winter of 2008-2009.
Indiana bat (Myotis sodalis)	2	1.3.1.2	Survey extant and uncertain populations in P3 (n=135) and P4 (n=167) hibernacula approximately every four years or as funding allows.	Ongoing Current	FY 2009		Research , U.S. Fish and Wildlife Service - Endangered Species Program	Work type not yet selected	Labor type not yet selected	Cost for FY 2011 represents estimated cost for FY 2011-2026. Surveyed on even or odd years.
Indiana bat (Myotis sodalis)	3	1.3.1.3	Survey historically occupied hibernacula as warranted.	Ongoing Current	FY 2009		Research , U.S. Fish and Wildlife Service - Endangered Species Program	Work type not yet selected	Labor type not yet selected	Costs included in 1.3.1.1 and 1.3.1.2
Indiana bat (Myotis sodalis)	2	1.3.2	Search for new winter populations and historically important Indiana bat winter roost sites.	Ongoing Current	FY 2009		Research , U.S. Fish and Wildlife Service - Endangered Species Program	Work type not yet selected	Labor type not yet selected	Cost for FY 2011 represents estimated cost for FY 2011-2026.
Indiana bat (Myotis sodalis)	3	1.3.3	Cooperate with BCI's Appalachian Saltpeter Caves Project in Kentucky to identify historically important hibernacula.	Ongoing Current	FY 2008		Consultants, Bat Conservation International , USFWS Ecological Services Program, University or academic researchers	Research: Management Techniques	Labor type not yet selected	
Indiana bat (Myotis sodalis)	2	1.3.4	Research, develop, and field test alternative methods of surveying Pilot Knob Mine in Missouri.	Partially Complete	FY 2009			Research: Population Surveys	Labor type not yet selected	

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Indiana bat (Myotis sodalis)	2	1.3.5	Calculate and report rangewide population estimate based upon biennial winter surveys.	Ongoing Current	FY 2008			Research: Population Surveys	Labor type not yet selected	Cost for FY 2011 represents estimated cost for FY 2011-2026.
Indiana bat (Myotis sodalis)	3	1.3.6	Annually review and reassign hibernacula priority numbers based upon winter surveys.	Ongoing Current	FY 2008			Research: Population Surveys	Labor type not yet selected	Cost for FY 2011 represents estimated cost for FY 2011-2026.
Indiana bat (Myotis sodalis)	3	1.3.7	Update Indiana bat range map with generalized hibernacula locations and priority numbers every two years.	Not Started				Work type not yet selected	Labor type not yet selected	Cost for FY 2011 represents estimated cost for FY 2011-2026.
Indiana bat (Myotis sodalis)	2	1.4.1	Establish a comprehensive Indiana bat hibernacula database.	Complete	FY 2007	FY 2011	U.S. Fish and Wildlife Service - Endangered Species Program	Management: Other	Labor type not yet selected	Cost for FY 2011 represents estimated cost for FY 2011-2026.
Indiana bat (Myotis sodalis)	2	1.4.2	Maintain the Indiana bat hibernacula database.	Ongoing Current	FY 2007			Research: Population Surveys	Labor type not yet selected	Cost for FY 2011 represents estimated cost for FY 2011-2026.
Indiana bat (Myotis sodalis)	3	1.4.3	Coordinate with partners (n=20) and develop a hibernacula data-sharing policy.	Partially Complete	FY 2009			Work type not yet selected	Labor type not yet selected	
Indiana bat (Myotis sodalis)	3	2.1.1.1	Develop habitat restoration and maintenance guidelines for Indiana bat on private lands throughout its range: Ozark-Central Recovery Unit	Not Started			USFWS Ecological Services Program, USFWS Partners for Fish and Wildlife Program, State Natural Resources Agencies within the range of the Indiana bat	Work type not yet selected	Labor type not yet selected	
Indiana bat (Myotis sodalis)	3	2.1.1.2	Develop habitat restoration and maintenance guidelines for Indiana bat on private lands throughout its range: Midwest Recovery Unit	Not Started			USFWS Ecological Services Program, USFWS Partners for Fish and Wildlife Program, State Natural Resources Agencies within the range of the Indiana bat	Work type not yet selected	Labor type not yet selected	

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Indiana bat (Myotis sodalis)	3	2.1.1.3	Develop habitat restoration and maintenance guidelines for Indiana bat on private lands throughout its range: Appalachian Mountain Recovery Unit	Not Started			USFWS Ecological Services Program, USFWS Partners for Fish and Wildlife Program, State Natural Resources Agencies within the range of the Indiana bat	Work type not yet selected	Labor type not yet selected	
Indiana bat (Myotis sodalis)	3	2.1.1.4	Develop habitat restoration and maintenance guidelines for Indiana bat on private lands throughout its range: Northeast Recovery Unit	Not Started			USFWS Ecological Services Program, USFWS Partners for Fish and Wildlife Program, State Natural Resources Agencies within the range of the Indiana bat	Work type not yet selected	Labor type not yet selected	
Indiana bat (Myotis sodalis)	3	2.1.2	As necessary, develop agreements with landowners to conserve and manage maternity colonies and summer habitat on private lands.	Ongoing Current	FY 2009			Work type not yet selected	Labor type not yet selected	Cost for FY 2011 represents estimated cost for FY 2011-2026.
Indiana bat (Myotis sodalis)	3	2.1.3	Encourage activities that enhance or improve summer habitat on private lands.	Ongoing Current	FY 2009			Work type not yet selected	Labor type not yet selected	Cost for FY 2011 represents estimated cost for FY 2011-2026.
Indiana bat (Myotis sodalis)	3	2.2.1.1	Develop guidelines for Indiana bat habitat management to be used on Federally owned lands throughout its range: Ozark-Central Recovery Unit	Not Started			U.S. Forest Service, Department of Defense , USFWS Ecological Services Program	Work type not yet selected	Labor type not yet selected	
Indiana bat (Myotis sodalis)	3	2.2.1.2	Develop guidelines for Indiana bat habitat management to be used on Federally owned lands throughout its range: Midwest Recovery Unit	Not Started			U.S. Forest Service, Department of Defense , USFWS Ecological Services Program	Work type not yet selected	Labor type not yet selected	

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Indiana bat (Myotis sodalis)	3	2.2.1.3	Develop guidelines for Indiana bat habitat management to be used on Federally owned lands throughout its range: Appalachian Mountain Recovery Unit	Not Started			U.S. Forest Service, Department of Defense , USFWS Ecological Services Program	Work type not yet selected	Labor type not yet selected	
Indiana bat (Myotis sodalis)	3	2.2.1.4	Develop guidelines for Indiana bat habitat management to be used on Federally owned lands throughout its range: Northeast Recovery Unit	Not Started			U.S. Forest Service, Department of Defense , USFWS Ecological Services Program	Work type not yet selected	Labor type not yet selected	
Indiana bat (Myotis sodalis)	3	2.2.2	Develop and implement conservation programs on Federal lands for the recovery of Indiana bats pursuant to Sections 2(c)(1) and 7(a)(1) of the ESA	Ongoing Current	FY 2007		U.S. Fish and Wildlife Service - Endangered Species Program	Work type not yet selected	Labor type not yet selected	Cost for FY 2011 represents estimated cost for FY 2011-2026.
Indiana bat (Myotis sodalis)	3	2.3.1	Develop and implement guidelines for Indiana bat habitat management to be used on state, county, and municipal forest lands throughout its range: Ozark-Central Recovery Unit.	Not Started			USFWS Ecological Services Program, Municipalities, All counties in all states within the range of the Indiana bat, State Natural Resources Agencies within the range of the Indiana bat	Work type not yet selected	Labor type not yet selected	Cost for FY 2011 represents estimated cost for FY 2011-2026.
Indiana bat (Myotis sodalis)	3	2.3.2	Develop and implement guidelines for Indiana bat habitat management to be used on state, county, and municipal forest lands throughout its range: Midwest Recovery Unit.	Ongoing Current	FY 2009			Work type not yet selected	Labor type not yet selected	Cost for FY 2011 represents estimated cost for FY 2011-2026.

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Indiana bat (<i>Myotis sodalis</i>)	3	2.3.3	Develop guidelines and implement for Indiana bat habitat management to be used on state, county, and municipal forest lands throughout its range: Appalachian Mountain Recovery Unit.	Not Started			USFWS Ecological Services Program, Municipalities, All counties in all states within the range of the Indiana bat, State Natural Resources Agencies within the range of the Indiana bat	Work type not yet selected	Labor type not yet selected	Cost for FY 2011 represents estimated cost for FY 2011-2026.
Indiana bat (<i>Myotis sodalis</i>)	3	2.3.4	Develop and implement guidelines for Indiana bat habitat management to be used on state, county, and municipal lands throughout its range: Northeast Recovery Unit.	Not Started			USFWS Ecological Services Program, Municipalities, All counties in all states within the range of the Indiana bat, State Natural Resources Agencies within the range of the Indiana bat	Work type not yet selected	Labor type not yet selected	Cost for FY 2011 represents estimated cost for FY 2011-2026.
Indiana bat (<i>Myotis sodalis</i>)	3	2.4.1	Monitor maternity colonies through estimating numbers, survivorship, and demographic characteristics.	Ongoing Current			U.S. Fish and Wildlife Service - Endangered Species Program	Work type not yet selected	Labor type not yet selected	Cost for FY 2011 represents estimated cost for FY 2011-2026. Research results are needed before these guidelines can be developed, e.g., Recovery Action 3.1.
Indiana bat (<i>Myotis sodalis</i>)	3	2.4.2	Identify foraging habitat, water, and travel corridor needs of maternity colonies.	Ongoing Current			U.S. Fish and Wildlife Service - Endangered Species Program	Work type not yet selected	Labor type not yet selected	FY 2007-2026 costs are TBD. Cost for FY 2011 will represent estimated cost for FY 2011-2026.
Indiana bat (<i>Myotis sodalis</i>)	3	2.4.3	Identify existing and emerging threats, constraints, and limiting factors.	Ongoing Current			U.S. Fish and Wildlife Service - Endangered Species Program	Work type not yet selected	Labor type not yet selected	Costs covered by other tasks
Indiana bat (<i>Myotis sodalis</i>)	2	2.5	Develop guidelines for protection of Indiana bats from pesticide or other chemical exposure.	Not Started			U.S. Environmental Protection Agency, USFWS Ecological Services Program, State Natural Resources Agencies within the range of the Indiana bat	Work type not yet selected	Labor type not yet selected	Cost for FY 2011 represents estimated cost for FY 2011-2026. Research results are needed before developing these guidelines

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Indiana bat (<i>Myotis sodalis</i>)	2	2.6.1	Minimize adverse impacts to the Indiana bat and its habitat during review of Federal, state, county, municipal, and private activities with a Federal nexus under the ESA: Section 7 (a)(2)	Ongoing Current	FY 2009		U.S. Fish and Wildlife Service - Endangered Species Program	Work type not yet selected	Labor type not yet selected	Cost for FY 2011 represents estimated cost for FY 2011-2026.
Indiana bat (<i>Myotis sodalis</i>)	2	2.6.2	Minimize adverse impacts to the Indiana bat and its habitat by using conservation agreements with state, county, municipal, and private entities under the ESA: Section 10(a) for exception to take permits	Ongoing Current	FY 2009		U.S. Fish and Wildlife Service - Endangered Species Program	Work type not yet selected	Labor type not yet selected	Cost for FY 2011 represents estimated cost for FY 2011-2026.
Indiana bat (<i>Myotis sodalis</i>)	3	2.7.1	Refine mist netting protocols.	Partially Complete	FY 2009		U.S. Fish and Wildlife Service - Endangered Species Program	Work type not yet selected	Labor type not yet selected	
Indiana bat (<i>Myotis sodalis</i>)	3	2.7.2.1	Develop standardized protocols for conducting telemetry on Indiana bats.	Not Started			U.S. Forest Service, Consultants, Department of Defense , Non-governmental organizations (e.g. The Nature Conservancy), USFWS Ecological Services Program, University or academic researchers, State Natural Resources Agencies within the range of the Indiana bat	Work type not yet selected	Labor type not yet selected	

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Indiana bat (<i>Myotis sodalis</i>)	3	2.7.2.2	Develop standardized protocols for conducting exit counts on Indiana bats.	Not Started			U.S. Forest Service, Consultants, Department of Defense , Non-governmental organizations (e.g. The Nature Conservancy), USFWS Ecological Services Program, University or academic researchers, State Natural Resources Agencies within the range of the Indiana bat	Work type not yet selected	Labor type not yet selected	
Indiana bat (<i>Myotis sodalis</i>)	3	2.7.2.3	Develop standardized protocols for collection of summer habitat information.	Not Started			U.S. Forest Service, Consultants, Department of Defense , Non-governmental organizations (e.g. The Nature Conservancy), USFWS Ecological Services Program, University or academic researchers, State Natural Resources Agencies within the range of the Indiana bat	Work type not yet selected	Labor type not yet selected	Cost for FY 2011 represents estimated cost for FY 2011-2026. Research results are needed before these protocols can be developed, e.g., Recovery Action 3.3.
Indiana bat (<i>Myotis sodalis</i>)	3	2.7.2.4	Develop standardized protocols for banding and reporting band recoveries.	Not Started			U.S. Forest Service, Consultants, Department of Defense , Non-governmental organizations (e.g. The Nature Conservancy), USFWS Ecological Services Program, University or academic researchers, State Natural Resources Agencies within the range of the Indiana bat	Work type not yet selected	Labor type not yet selected	

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Indiana bat (Myotis sodalis)	3	2.7.2.5	Develop standardized protocols for artificial roosts (and monitoring of artificial roosts) for Indiana bats.	Not Started			U.S. Forest Service, Consultants, Department of Defense , Non-governmental organizations (e.g. The Nature Conservancy), USFWS Ecological Services Program, University or academic researchers, State Natural Resources Agencies within the range of the Indiana bat	Work type not yet selected	Labor type not yet selected	
Indiana bat (Myotis sodalis)	3	2.7.2.6	Develop standardized protocols for use of bat detection systems to survey for Indiana bats	Ongoing Current	FY 2009		Research , U.S. Fish and Wildlife Service - Endangered Species Program	Work type not yet selected	Labor type not yet selected	Cost for FY 2011 represents estimated cost for FY 2011-2026. Protocol development is contingent on refinement of technology; FY10 - Eric Britzke working on call automation (partially funded by Service).
Indiana bat (Myotis sodalis)	1	3.1.1	Establish population status expert working group	Not Started			U.S. Geological Survey, U.S. Forest Service, Consultants, Department of Defense , Non-governmental organizations (e.g. The Nature Conservancy), USFWS Ecological Services Program, University or academic researchers, State Natural Resources Agencies within the range of the Indiana bat	Work type not yet selected	Labor type not yet selected	Cost for FY 2011 represents estimated cost for FY 2011-2026.
Indiana bat (Myotis sodalis)	2	3.1.2.1	Develop new standardized winter bat survey techniques	Partially Complete	FY 2009			Work type not yet selected	Labor type not yet selected	

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Indiana bat (Myotis sodalis)	3	3.1.2.2	Field test new winter bat survey techniques during biennial survey of P1 and P2 hibernacula in winter 2006-2007.	Ongoing Current	FY 2007			Research: Population Surveys	Labor type not yet selected	
Indiana bat (Myotis sodalis)	2	3.1.2.3	Revise the winter bat survey protocol to include newly developed survey techniques.	Not Started			U.S. Geological Survey, Consultants, Bat Conservation International , Non-governmental organizations (e.g. The Nature Conservancy), USFWS Ecological Services Program, University or academic researchers, State Natural Resources Agencies within the range of the Indiana bat	Work type not yet selected	Labor type not yet selected	Cost for FY 2011 represents estimated cost for FY 2011-2026. Assumes minor revisions every 5 years.
Indiana bat (Myotis sodalis)	2	3.1.3	Investigate marking methods for demographic studies	Not Started			U.S. Geological Survey, U.S. Forest Service, Consultants, Department of Defense , Non-governmental organizations (e.g. The Nature Conservancy), USFWS Ecological Services Program, University or academic researchers, State Natural Resources Agencies within the range of the Indiana bat	Work type not yet selected	Labor type not yet selected	Cost for FY 2011 represents estimated cost for FY 2011-2026. Costs supplemented by expenditures in 3.1.1.

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Indiana bat (<i>Myotis sodalis</i>)	1	3.1.4	Design and implement sampling protocol for survival studies	Not Started			U.S. Geological Survey, U.S. Forest Service, Consultants, Department of Defense , Non-governmental organizations (e.g. The Nature Conservancy), USFWS Ecological Services Program, University or academic researchers, State Natural Resources Agencies within the range of the Indiana bat	Work type not yet selected	Labor type not yet selected	Cost for FY 2011 represents estimated cost for FY 2011-2026. Costs supplemented by expenditures in 3.1.1. and 3.1.3
Indiana bat (<i>Myotis sodalis</i>)	2	3.1.5	Determine reproductive traits	Not Started			U.S. Geological Survey, U.S. Forest Service, Consultants, Department of Defense , Non-governmental organizations (e.g. The Nature Conservancy), USFWS Ecological Services Program, University or academic researchers, State Natural Resources Agencies within the range of the Indiana bat	Work type not yet selected	Labor type not yet selected	Cost for FY 2011 represents estimated cost for FY 2011-2026. Costs supplemented by expenditures in other tasks; contingent on completion of 3.1.3.
Indiana bat (<i>Myotis sodalis</i>)	1	3.1.6	Develop population dynamics models	Partially Complete	FY 2009		Research , U.S. Fish and Wildlife Service - Endangered Species Program	Work type not yet selected	Labor type not yet selected	Contracted with USGS to develop demographic model for Indiana bats
Indiana bat (<i>Myotis sodalis</i>)	3	3.1.7	Establish and maintain a central location for records of marked bats from life history and ecology studies	Partially Complete	FY 2009			Work type not yet selected	Labor type not yet selected	Cost for FY 2011 represents estimated cost for FY 2011-2026.

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Indiana bat (<i>Myotis sodalis</i>)	1	3.2.1	Laboratory studies of hibernation physiology and energetics	Ongoing Current	FY 2008		Research , U.S. Fish and Wildlife Service - Endangered Species Program	Work type not yet selected	Labor type not yet selected	Dzurick, C. and T. Tomasi. 2008. Ambient temperature and the hibernation energy budget of the endangered Indiana bat (<i>Myotis sodalis</i>). Pp. 381-390 in B.G. Lovegrove and A.E. McKechnie (eds.). Hypometabolism in Animals: Hibernation, Torpor and Cryobiology. University of KwaZulu-Natal, Pietermaritzburg.
Indiana bat (<i>Myotis sodalis</i>)	1	3.2.2.1	Develop standard methods for monitoring temperature, humidity, and airflow in hibernacula; design sampling strategy	Not Started			U.S. Geological Survey, Consultants, Bat Conservation International , Non-governmental organizations (e.g. The Nature Conservancy), USFWS Ecological Services Program, University or academic researchers, State Natural Resources Agencies within the range of the Indiana bat	Work type not yet selected	Labor type not yet selected	
Indiana bat (<i>Myotis sodalis</i>)	1	3.2.2.2	Characterize and monitor temperature, humidity, and airflow in hibernacula.	Not Started			U.S. Geological Survey, Consultants, Non-governmental organizations (e.g. The Nature Conservancy), USFWS Ecological Services Program, University or academic researchers, State Natural Resources Agencies within the range of the Indiana bat	Work type not yet selected	Labor type not yet selected	Cost for FY 2011 represents estimated cost for FY 2011-2026. Contingent on completion of 3.2.2.1.

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Indiana bat (<i>Myotis sodalis</i>)	1	3.2.2.3	Remote monitoring of hibernation behavior	Not Started			U.S. Geological Survey, Consultants, Non-governmental organizations (e.g. The Nature Conservancy), USFWS Ecological Services Program, University or academic researchers, State Natural Resources Agencies within the range of the Indiana bat	Work type not yet selected	Labor type not yet selected	
Indiana bat (<i>Myotis sodalis</i>)	1	3.2.3	Model hibernacula conditions; monitor modified hibernacula	Not Started			U.S. Geological Survey, Consultants, Non-governmental organizations (e.g. The Nature Conservancy), USFWS Ecological Services Program, University or academic researchers, State Natural Resources Agencies within the range of the Indiana bat	Work type not yet selected	Labor type not yet selected	Cost for FY 2011 represents estimated cost for FY 2011-2026. Contingent on completion of 3.2.2.1 and 3.2.2.2.
Indiana bat (<i>Myotis sodalis</i>)	2	3.2.4	Predict and monitor responses to restoration and creation of hibernacula	Not Started			U.S. Geological Survey, Consultants, Non-governmental organizations (e.g. The Nature Conservancy), USFWS Ecological Services Program, University or academic researchers, State Natural Resources Agencies within the range of the Indiana bat	Work type not yet selected	Labor type not yet selected	Cost for FY 2011-2026 are TBD. Cost for FY 2011 will represent estimated cost for FY 2011-2026.

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Indiana bat (<i>Myotis sodalis</i>)	3	3.3.1	Investigate use of site-occupancy models to assess summer habitat use	Not Started			U.S. Geological Survey, U.S. Forest Service, Consultants, Department of Defense , Non-governmental organizations (e.g. The Nature Conservancy), USFWS Ecological Services Program, University or academic researchers, State Natural Resources Agencies within the range of the Indiana bat	Work type not yet selected	Labor type not yet selected	Cost for FY 2011 represents estimated cost for FY 2011-2026. Costs supplemented by expenditures in 3.1.1.
Indiana bat (<i>Myotis sodalis</i>)	1	3.3.10	Estimate suitable summer habitat	Not Started			U.S. Geological Survey, U.S. Forest Service, Consultants, Department of Defense , Non-governmental organizations (e.g. The Nature Conservancy), USFWS Ecological Services Program, University or academic researchers, State Natural Resources Agencies within the range of the Indiana bat	Work type not yet selected	Labor type not yet selected	Cost for FY 2011 represents estimated cost for FY 2011-2026. Costs supplemented by expenditures in other tasks; contingent on completion of 3.3.2.
Indiana bat (<i>Myotis sodalis</i>)	1	3.3.2	Assess habitat requirements for maternity colonies	Not Started			U.S. Geological Survey, U.S. Forest Service, Consultants, Department of Defense , Non-governmental organizations (e.g. The Nature Conservancy), USFWS Ecological Services Program, University or academic researchers, State Natural Resources Agencies within the range of the Indiana bat	Work type not yet selected	Labor type not yet selected	Cost for FY 2011 represents estimated cost for FY 2011-2026.

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Indiana bat (<i>Myotis sodalis</i>)	3	3.3.3	Determine maternity colony spatial overlap, densities, distributions	Not Started			U.S. Geological Survey, U.S. Forest Service, Consultants, Department of Defense , Non-governmental organizations (e.g. The Nature Conservancy), USFWS Ecological Services Program, University or academic researchers, State Natural Resources Agencies within the range of the Indiana bat	Work type not yet selected	Labor type not yet selected	Cost for FY 2011 represents estimated cost for FY 2011-2026. Costs supplemented by expenditures in 3.3.2
Indiana bat (<i>Myotis sodalis</i>)	3	3.3.4	Define the variability in colony characteristics	Not Started			U.S. Geological Survey, U.S. Forest Service, Consultants, Department of Defense , Non-governmental organizations (e.g. The Nature Conservancy), USFWS Ecological Services Program, University or academic researchers, State Natural Resources Agencies within the range of the Indiana bat	Work type not yet selected	Labor type not yet selected	Cost for FY 2011 represents estimated cost for FY 2011-2026. Costs supplemented by expenditures in 3.3.2
Indiana bat (<i>Myotis sodalis</i>)	2	3.3.5	Develop means to estimate persistence of maternity colonies	Not Started			U.S. Geological Survey, U.S. Forest Service, Consultants, Department of Defense , Non-governmental organizations (e.g. The Nature Conservancy), USFWS Ecological Services Program, University or academic researchers, State Natural Resources Agencies within the range of the Indiana bat	Work type not yet selected	Labor type not yet selected	Cost for FY 2011-2026 are TBD. Cost for FY 2011 will represent estimated cost for FY 2011-2026. Costs supplemented by expenditures in other tasks

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Indiana bat (<i>Myotis sodalis</i>)	3	3.3.6	Assess diet and foraging requirements	Not Started			U.S. Geological Survey, U.S. Forest Service, Consultants, Department of Defense , Non-governmental organizations (e.g. The Nature Conservancy), USFWS Ecological Services Program, University or academic researchers, State Natural Resources Agencies within the range of the Indiana bat	Work type not yet selected	Labor type not yet selected	Cost for FY 2011 represents estimated cost for FY 2011-2026. Costs supplemented by expenditures in 3.3.2
Indiana bat (<i>Myotis sodalis</i>)	3	3.3.7	Improve understanding of autumn swarming	Not Started			U.S. Geological Survey, U.S. Forest Service, Consultants, Department of Defense , Non-governmental organizations (e.g. The Nature Conservancy), USFWS Ecological Services Program, University or academic researchers, State Natural Resources Agencies within the range of the Indiana bat	Work type not yet selected	Labor type not yet selected	Cost for FY 2011 represents estimated cost for FY 2011-2026.
Indiana bat (<i>Myotis sodalis</i>)	3	3.3.8	Maintain geographic records of occurrence of reproductive females and juvenile males	Ongoing Current	FY 2007			Management: Identify/Protect Foraging, Breeding and Mig Habitats	Labor type not yet selected	Cost for FY 2011 represents estimated cost for FY 2011-2026.

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Indiana bat (<i>Myotis sodalis</i>)	1	3.3.9	Determine land management practices that will increase or maintain suitability of habitat and the impacts of habitat perturbations on maternity colony persistence.	Not Started			U.S. Geological Survey, U.S. Forest Service, Consultants, Department of Defense , Non-governmental organizations (e.g. The Nature Conservancy), USFWS Ecological Services Program, USFWS Partners for Fish and Wildlife Program, University or academic researchers, USFWS, Division of Refuges and Wildlife, State Natural Resources Agencies within the range of the Indiana bat	Work type not yet selected	Labor type not yet selected	Cost for FY 2011 represents estimated cost for FY 2011-2026.
Indiana bat (<i>Myotis sodalis</i>)	2	3.4.1	Assess contaminants in bat tissues	Not Started			U.S. Geological Survey, U.S. Forest Service, Consultants, Department of Defense , Non-governmental organizations (e.g. The Nature Conservancy), USFWS Ecological Services Program, University or academic researchers, State Natural Resources Agencies within the range of the Indiana bat	Work type not yet selected	Labor type not yet selected	Cost for FY 2011 represents estimated cost for FY 2011-2026.

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Indiana bat (<i>Myotis sodalis</i>)	2	3.4.2	Determine geographic patterns in contaminant use	Not Started			U.S. Geological Survey, U.S. Forest Service, Consultants, Department of Defense , Non-governmental organizations (e.g. The Nature Conservancy), USFWS Ecological Services Program, University or academic researchers, State Natural Resources Agencies within the range of the Indiana bat	Work type not yet selected	Labor type not yet selected	Cost for FY 2011 represents estimated cost for FY 2011-2026.
Indiana bat (<i>Myotis sodalis</i>)	3	3.4.3	Laboratory experiments on contaminant effects	Partially Complete	FY 2009			Work type not yet selected	Labor type not yet selected	Cost for FY 2011 represents estimated cost for FY 2011-2026.
Indiana bat (<i>Myotis sodalis</i>)	3	3.5.1	Prevalence of diseases	Ongoing Current	FY 2009		Research , U.S. Fish and Wildlife Service - Endangered Species Program	Work type not yet selected	Labor type not yet selected	WNS-related investigations and research.
Indiana bat (<i>Myotis sodalis</i>)	3	3.5.2	Determine genetic structuring at maternity colonies across the summer distribution	Not Started			U.S. Geological Survey, U.S. Forest Service, Consultants, Department of Defense , Non-governmental organizations (e.g. The Nature Conservancy), USFWS Ecological Services Program, University or academic researchers, State Natural Resources Agencies within the range of the Indiana bat	Work type not yet selected	Labor type not yet selected	Cost for FY 2011 represents estimated cost for FY 2011-2026. Costs supplemented by expenditures in 3.3.4 and other tasks

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Indiana bat (Myotis sodalis)	3	3.5.3	Conduct additional studies of Indiana bat population genetics based on sampling at hibernacula	Ongoing Current	FY 2009		Research , U.S. Fish and Wildlife Service - Endangered Species Program	Work type not yet selected	Labor type not yet selected	Cost for FY 2011-2026 are TBD. Cost for FY 2011 will represent estimated cost for FY 2011-2026. FY10 Sybill Amelon initiated microsatellite work on Indiana bats (Forest Service and Service funding).
Indiana bat (Myotis sodalis)	3	3.6	Develop a post-delisting monitoring plan	Not Started			Consultants, Bat Conservation International , Non-governmental organizations (e.g. The Nature Conservancy), USFWS Ecological Services Program, University or academic researchers, State Natural Resources Agencies within the range of the Indiana bat	Work type not yet selected	Labor type not yet selected	Cost for FY 2011-2026 are TBD. Cost for FY 2011 will represent estimated cost for FY 2011-2026
Indiana bat (Myotis sodalis)	3	4.1	Develop and implement outreach activities to enhance specific recovery tasks for Indiana bat.	Not Started			USFWS External Affairs Program, USFWS Ecological Services Program, State Natural Resources Agencies within the range of the Indiana bat	Work type not yet selected	Labor type not yet selected	FY 2007-2026 costs are TBD. Cost for FY 2011 will represent estimated cost for FY 2011-2026. Yearly cost estimates will depend on the timing of recovery-related activities.
Indiana bat (Myotis sodalis)	3	4.2.1	Assemble an outreach planning and implementation team to conduct audience analysis, develop communications goals, develop needed products and coordinate implementation of recommended outreach strategies and actions.	Not Started			Consultants, Non-governmental organizations (e.g. The Nature Conservancy), USFWS External Affairs Program, USFWS Ecological Services Program, University or academic researchers, State Natural Resources Agencies within the range of the Indiana bat	Work type not yet selected	Labor type not yet selected	FY 2009-2026 costs are TBD. Cost for FY 2011 will represent estimated cost for FY 2011-2026. Cost estimate assumes plan outreach plan would be completed in two years. Costs for remaining years will depend on the plan content.

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Indiana bat (Myotis sodalis)	3	4.2.2	Highlight the Indiana bat's association with unique environments/cave/karst and their importance to the well-being of the human environment as well as for wildlife.	Not Started			Consultants, Non-governmental organizations (e.g. The Nature Conservancy), USFWS External Affairs Program, USFWS Ecological Services Program, University or academic researchers, State Natural Resources Agencies within the range of the Indiana bat	Work type not yet selected	Labor type not yet selected	FY 2007-2026 costs are TBD. Cost for FY 2011 will represent estimated cost for FY 2011-2026. Yearly cost estimates will depend in part on opportunity and partner involvement.
Indiana bat (Myotis sodalis)	3	4.2.3	Seek opportunities to raise awareness of the Indiana bat's special characteristics; foster a sense of appreciation for the bat, its habitat, and the unique life history of bats in general.	Ongoing Current	FY 2009			Work type not yet selected	Labor type not yet selected	FY 2007-2026 costs are TBD. Cost for FY 2011 will represent estimated cost for FY 2011-2026. Yearly cost estimates will depend in part on opportunity and partner involvement.
Indiana bat (Myotis sodalis)	3	4.2.4	Organize, with partners, discussion opportunities with industry groups and transportation and energy agencies to provide information and to listen to concerns.	Ongoing Current			U.S. Fish and Wildlife Service - Endangered Species Program	Work type not yet selected	Labor type not yet selected	FY 2007-2026 costs are TBD. Cost for FY 2011 will represent estimated cost for FY 2011-2026. Yearly cost estimates will be partially issue and opportunity driven.
Indiana bat (Myotis sodalis)	3	4.2.5	Use Service websites as a repository of information about the Indiana bat. This information should be organized so that it is easily located and accessible and specific to key audiences (i.e., educators, planners, industry representatives, consultants).	Ongoing Current	FY 2009			Work type not yet selected	Labor type not yet selected	FY 2007-2026 costs are TBD. Cost for FY 2011 will represent estimated cost for FY 2011-2026. Yearly cost estimates will be partially issue driven and/or may be a part of other Service expenditures.